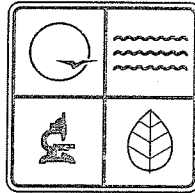


STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES  
MISSOURI AIR CONSERVATION COMMISSION



PERMIT BOOK

## PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **06 2 006 - 010** Project Number: **2006-03-043**

Owner: **Tyson Foods, Incorporated**

Owner's Address: **P.O. Box 2020, Springdale, AR 72765**

Installation Name: **Tyson Foods, Incorporated**

Installation Address: **19571 Whitfield Rd., Sedalia, MO 65302**

Location Information: **Pettis County, S22, T46N, R22W**

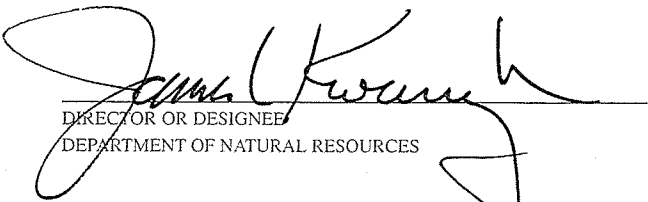
Application for Authority to Construct was made for:

Installation of a 50.4 MMBTU per hour natural gas-fired boiler, a fryer and an oven in the chicken processing plant and new material handling equipment in the rendering plant. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

- 
- ☐ Standard Conditions (on reverse) are applicable to this permit.
- ☒ Standard Conditions (on reverse) and Special Conditions (listed as attachments starting on page 2) are applicable to this permit.

JUN 16 2006

EFFECTIVE DATE

  
DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

**You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review.** Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional Office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed Special Conditions as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.

If you choose not to appeal, this certificate, the project review, your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.

2006-03-043

Tyson Foods, Incorporated

P.O. Box 2020, Springdale, AR 72765

Tyson Foods, Incorporated

19571 Whitfield Rd., Sedalia, MO 65302

Pettis County, S22, T46N, R22W

Installation of a 50.4 MMBTU per hour natural gas-fired boiler, a fryer and an oven in the chicken processing plant and new material handling equipment in the rendering plant. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Page No.	2
Permit No.	
Project No.	2006-03-043

## SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

Tyson Foods, Incorporated  
Pettis County, S22, T46N, R22W

### 1. Control Requirements – Grinding Room Emissions and Stein Fryer Emissions

- A. Emissions from the rendering plant grinding room shall be vented to the following pollution control train, in sequence: cyclone (CD-6), venturi scrubber (CD-04) and packed bed scrubber (CD-05). Emissions from the Stein Fryer shall be vented to a venturi scrubber (CD-59). These pollution control devices (CD-04, CD-05, CD-06 and CD-59) shall be in operation at all times that the associated processing equipment is in use. These pollution control devices shall be operated and maintained in accordance with the manufacturer's specifications.
- B. Tyson Foods, Incorporated shall maintain an operating, maintenance and inspection log for the pollution control devices which shall include the following:
  - 1) Incidents of malfunction(s) including the date(s) and duration of the event, the probable cause, any corrective actions taken and the impact on emissions due to the malfunction;
  - 2) Any maintenance activities conducted on the unit, such as replacement of equipment, etc.; and
  - 3) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection.

### 2. Limitation on Odor

If a continuing situation of demonstrated nuisance odors exists in violation of 10 CSR 10-3.090, *Restriction of Emission of Odors*, the Director may require the source to submit a corrective action plan within ten (10) days adequate to timely and significantly mitigate the odors. The source shall implement any such plan immediately upon its approval by the Director. Failure to either submit or implement such a plan shall be a violation of the permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (5) REVIEW

Project Number: 2006-03-043  
Installation ID Number: 159-0037  
Permit Number:

Tyson Foods, Incorporated  
19571 Whitfield Rd.  
Sedalia, MO 65302

Complete: March 9, 2006  
Reviewed: June 2006

Parent Company:  
Tyson Foods, Incorporated  
P.O. Box 2020  
Springdale, AR 72765

Pettis County, S22, T46N, R22W

REVIEW SUMMARY

- Tyson Foods, Incorporated has applied for authority to construct a 50.4 MMBTU per hour natural gas-fired boiler, a fryer and an oven. Tyson Foods, Incorporated has also applied for authority to construct a new hammermill and a rotex screen in the rendering plant.
- Hazardous Air Pollutant (HAP) emissions are expected from the combustion of natural gas, but in insignificant quantities.
- Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, of the New Source Performance Standards (NSPS) applies to the new boiler.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- A venturi scrubber is being used to control the particulate matter less than ten (10) microns in diameter (PM<sub>10</sub>) emissions from the fryer. Emissions from the hammermill and rotex screen are controlled by cyclones, venturi scrubbers and a packed bed scrubber. The boiler is uncontrolled.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all criteria pollutants are de minimis.
- This installation is located in Pettis County, an attainment area for all criteria air pollutants.

- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- Ambient air quality modeling was not performed since potential emissions of the application are de minimis.
- Revision to the Intermediate Operating Permit is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

### INSTALLATION DESCRIPTION

Tyson Foods, Incorporated operates a chicken slaughter and processing facility in Sedalia, Missouri. The facility also operates a further protein processing plant that is equipped to render and produce meat meal and feather/blood meal. The processing equipment at this facility that vents to the atmosphere consist of boilers, hot water heaters, ovens, fryers and thermal fluid heaters.

Tyson Foods, Incorporated currently has an Intermediate Operating Permit renewal application under review (Project No. 2002-11-142) that limits the emissions of each pollutant to less than 100 tons per year. The following construction permits have been issued to Tyson Foods, Incorporated from the Air Pollution Control Program.

Table 1: Previously Issued Construction Permits

Permit Number	Description
1095-017	De minimis Permit for Chicken Processing Plant
1097-029	Permit for Protein Conversion Operation
0798-037	De minimis Permit for 10 MMBtu Fluid Heater
0798-002	Amendment for Odor Control Chemical Substitution
1198-014	De minimis Permit for Increased Oven Capacity
0799-004	De minimis Permit for Searing Machine
052001-027	De minimis Permit for Ovens and Fryers
102001-004	De minimis Permit for burning of poultry fat in boilers
122005-010	De minimis Permit for a boiler and a meat meal cooker

### PROJECT DESCRIPTION

Tyson Foods, Incorporated proposes to add the following equipment:

- A 50.4 MMBTU/hr (0.048 MMCF/hr) natural gas-fired boiler. The boiler will be utilized to produce process steam in the chicken processing facility.
- A Stien DSI TFF-II ThermoFIN Fryer. Natural gas is used to transfer heat to a thermal fluid, the thermal fluid is then used (indirectly) to transfer heat to the cooking oil. Emissions from the fryer will be routed to a venturi scrubber, after passing through a mist eliminator. The maximum hourly design rate stated in the application is 5 tons per hour finished product. Existing fluid heaters will

be utilized to supply up to 3.84 MMBTU/hr to this fryer.

- A CFS CookStar 1000-6 Spiral Cooker. The maximum hourly design rate stated in the application is 5 tons per hour finished product. Existing (natural gas-fired) fluid heaters will be utilized to supply up to 5.9 MMBTU/hr to this oven
- A Bliss 38115 Hammermill, to be located in the rendering plant. The maximum hourly design rate stated in the application is 2.5 tons per hour finished product.
- A Rotex 81A screen, to be located in the rendering plant . The maximum hourly design rate stated in the application is 2.5 tons per hour finished product.

### EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.4, *Natural Gas Combustion* (07/1998), Section 9.13.3, *Snack Chip Deep Fat Frying* (01/1995) and Section 9.9.1, *Grain Elevators and Processes* (04/2003). Control efficiencies for cyclones, venturi scrubbers and the packed bed scrubber were assumed to be 85, 95 and 60 percent, respectively. Capture efficiencies were assumed to be 90 percent for the fryer and 99 percent for emissions routed from the grinding room cyclone to the venturi and packed bed scrubbers. Emission factors from the *Snack Chip Deep Fat Frying* and *Grain Elevators and Processes* sections of AP-42 were utilized due to the lack of directly applicable emission factors. See the permit application for further details regarding emission factors and pollution control equipment. Existing potential emissions are limited by the installation's Intermediate Operating Permit. Existing actual emissions were taken from the applicant's 2005 Emissions Inventory Questionnaire (EIQ) submittal. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2005 EIQ)	Potential Emissions of the Application	Installation Conditioned Potential
PM <sub>10</sub>	15.0	< 100	36.2	13.0	N/A
SO <sub>x</sub>	40.0	< 100	0.20	0.1	N/A
NO <sub>x</sub>	40.0	< 100	32.7	21.0	N/A
VOC	40.0	< 100	2.4	4.9	N/A
CO	100.0	< 100	27.4	17.7	N/A
HAPs	10.0/25.0	< 10/25	N/D	negligible	N/A

\*N/A = Not Applicable

## PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all criteria pollutants are de minimis.

## APPLICABLE REQUIREMENTS

Tyson Foods, Incorporated shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110  
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions.
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

### SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *New Source Performance Regulations*, 10 CSR 10-6.070 – *New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units*, 40 CFR Part 60, Subpart Dc
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- *Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-3.060



## STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

---

Steve Jaques, P.E.  
Environmental Engineer

---

Date

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct for Boiler Fryer and Oven, dated February 28, 2005, received March 9, 2005, designating Tyson Foods, Incorporated as the owner and operator of the installation.
- The Application for Authority to Construct for Additional Grinding and Screening Units, dated February 27, 2005, received March 9, 2005, designating Tyson Foods, Incorporated as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Kansas City Regional Office Site Survey, dated March 21, 2006.

Mr. Caleb Hunt  
Environmental Manager  
Tyson Foods, Incorporated  
P.O. Box 1058  
Sedalia, MO 65302

RE: New Source Review Permit - Project Number: 2006-03-043

Dear Mr. Hunt:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files.

Operation in accordance with these conditions, your new source review permit application and with your revised operating permit is necessary for continued compliance.

The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact me at (573) 751-4817, or you may write to me at the Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale  
New Source Review Unit Chief

KBH:sj  
Enclosures

c: Kansas City Regional Office  
PAMS File 2006-03-043

Permit Number: